

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	((chamber housing) and (annular ring) and aperture and step and seal\$3 and semiconductor and (circumference perimeter periphery) and (shaft spindle) and (support holder carrier susceptor chuck)).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/07/19 08:28
L2	2	((chamber housing) and (annular ring) and aperture and step and seal\$3 and semiconductor and (circumference perimeter periphery) and (shaft spindle) and (support holder carrier susceptor chuck)).clm.	US-PGPUB; USPAT	OR	ON	2007/07/19 08:28
S12	2	"20050172905"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/07/16 15:27
S13	2	"20030141673"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 16:26
S14	2	"20050241767"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 18:01
S15	881711	"118"/	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/11 18:01
S16	1637	(118/729 118/730 156/345.54 156/345.55).ccls.	US-PGPUB; USPAT	OR	ON	2006/04/11 19:11
S17	3238	(118/728 118/729 118/730 156/345.51 156/345.52 156/345.53 156/345.54 156/345.55).ccls.	US-PGPUB; USPAT	OR	ON	2006/04/11 19:12
S18	1	S17 and ((shaft near4 seal\$3) same dust)	US-PGPUB; USPAT	OR	ON	2006/04/11 19:14
S19	2	S17 and (shaft same seal\$3 same dust)	US-PGPUB; USPAT	OR	ON	2006/04/11 19:15
S20	1	S17 and (dust same (shaft near4 (ring bush\$3 sleeve)))	US-PGPUB; USPAT	OR	ON	2006/04/11 19:17

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S21	668	(dust same (shaft near4 (ring bush\$3 sleeve)))	US-PGPUB; USPAT	OR	ON	2006/04/11 19:19
S22	1	S21 and (substrate near3 (support holder susceptor chuck))	US-PGPUB; USPAT	OR	ON	2006/04/11 19:19
S23	1415	S17 and (substrate near3 (support holder susceptor chuck))	US-PGPUB; USPAT	OR	ON	2006/04/11 19:19
S24	1	S17 and S21	US-PGPUB; USPAT	OR	ON	2006/04/11 19:19
S25	20987	chamber same (open\$3 near3 bottom)	US-PGPUB; USPAT	OR	ON	2006/04/12 08:36
S26	53	S25 and (shaft near3 (dust particle contaminat\$3))	US-PGPUB; USPAT	OR	ON	2006/04/12 08:44
S27	348388	("118"/\$ 156/345.\$2 "204"/\$ "216"/\$ "315"/\$ "427"/\$ "438"/\$)	US-PGPUB; USPAT	OR	ON	2006/04/12 08:44
S28	1610	S27 and S25	US-PGPUB; USPAT	OR	ON	2006/04/12 12:45
S29	7	S28 and (shaft near3 (dust particle contaminat\$3))	US-PGPUB; USPAT	OR	ON	2006/04/12 08:45
S30	502	S28 and shaft	US-PGPUB; USPAT	OR	ON	2006/04/12 08:48
S31	346	S30 and seal\$3	US-PGPUB; USPAT	OR	ON	2006/04/12 08:48
S32	1096	S28 and (shaft pipe tube\$2)	US-PGPUB; USPAT	OR	ON	2006/04/12 08:48
S33	903	S32 and (seal\$3 dust particle)	US-PGPUB; USPAT	OR	ON	2006/04/12 12:43
S34	284	(chamber same (bottom near3 open\$3)) and ((shaft pipe tub\$3) same(seal\$3 dust particle))	EPO; JPO; DERWENT	OR	ON	2006/04/12 09:16
S35	284	(chamber same (bottom near3 open\$3)) and ((shaft pipe tub\$3) same (seal\$3 dust particle))	EPO; JPO; DERWENT	OR	ON	2006/04/12 09:19
S36	3	S35 and plasma	EPO; JPO; DERWENT	OR	ON	2006/04/12 09:17
S37	0	S35 and (c23C016/00 and H01L021/00)	EPO; JPO; DERWENT	OR	ON	2006/04/12 09:21
S38	4	S35 and (c23C016/\$ and H01L021/\$)	EPO; JPO; DERWENT	OR	ON	2006/04/12 09:21
S39	88	(andrezej near2 kaszuba).in. (sophia near2 velastegui).in. (visweswaren near2 sivaramakrishnan).in. (pyongwon near2 yim).in. (mario near2 silvetti).in. (tom near2 cho).in. (indrajit near2 lahiri).in. (surinder near2 bedi).in.	US-PGPUB; USPAT	OR	ON	2006/04/12 09:25

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S40	89	(andrzej near2 kaszuba).in. (sophia near2 velastegui).in. (visweswaren near2 sivaramakrishnan).in. (pyongwon near2 yim).in. (mario near2 silvetti).in. (tom near2 cho).in. (indrajit near2 lahiri).in. (surinder near2 bedi).in.	US-PGPUB; USPAT	OR	ON	2006/04/12 09:25
S41	17	S40 and (chamber and shaft and ring)	US-PGPUB; USPAT	OR	ON	2006/04/12 09:26
S42	2	"20050172905"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/12 11:24
S43	247	S32 and ((ring collar) near4 (seal\$3 dust particle))	US-PGPUB; USPAT	OR	ON	2006/04/12 12:06
S44	1175	((shaft pipe tub\$3) near4 seal\$3) same ((ring collar sleeve) near4 (wedge corner edge))	US-PGPUB; USPAT	OR	ON	2006/04/12 12:08
S45	27	S44 and S27	US-PGPUB; USPAT	OR	ON	2006/04/12 12:11
S46	85	S27 and (ring near3 wedge)	US-PGPUB; USPAT	OR	ON	2006/04/12 12:19
S47	492	S27 and (wedge near4 (ring collar member))	US-PGPUB; USPAT	OR	ON	2006/04/12 12:20
S48	3	S47 and (seal\$3 near4 (particle\$2 dirt dust))	US-PGPUB; USPAT	OR	ON	2006/04/12 12:25
S49	117763	S27 and (dust particle dirt)	US-PGPUB; USPAT	OR	ON	2006/04/12 12:25
S50	8678	S49 and ((shaft pipe tub\$3) same seal\$3)	US-PGPUB; USPAT	OR	ON	2006/04/12 12:26
S51	37	S50 and (wedge near4 (ring collar sleeve member))	US-PGPUB; USPAT	OR	ON	2006/04/12 12:27
S52	10	S32 and ((seal\$3 dust particle) same wedge)	US-PGPUB; USPAT	OR	ON	2006/04/12 12:44
S53	4	S27 and ((shaft near4 seal\$3) same wedge)	US-PGPUB; USPAT	OR	ON	2006/04/12 12:48
S54	5	S27 and ((shaft near5 seal\$3) same wedge)	US-PGPUB; USPAT	OR	ON	2006/04/12 12:50
S55	1720	S27 and (shaft near5 seal\$3)	US-PGPUB; USPAT	OR	ON	2006/04/12 12:50
S56	1192	S27 and (shaft near3 seal\$3)	US-PGPUB; USPAT	OR	ON	2006/04/12 12:51
S57	466	S56 and ("118"/\$ 156/345.\$2).ccls.	US-PGPUB; USPAT	OR	ON	2006/04/12 13:57

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S58	465	118/733.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/12 13:59
S59	26	S58 and (shaft near3 seal)	US-PGPUB; USPAT	OR	ON	2006/04/12 14:14
S60	856	34/242.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/12 14:14
S61	79	S60 and shaft	US-PGPUB; USPAT	OR	ON	2006/04/12 14:24
S62	22	S61 and (wedge V)	US-PGPUB; USPAT	OR	ON	2006/04/12 14:30
S63	938	277/500.ccls.	US-PGPUB; USPAT	OR	ON	2006/04/12 14:24
S64	250	S63 and shaft	US-PGPUB; USPAT	OR	ON	2006/04/12 14:24
S65	50	S64 and (wedge V)	US-PGPUB; USPAT	OR	ON	2006/04/12 14:27
S66	16	S64 and wedge	US-PGPUB; USPAT	OR	ON	2006/04/12 14:28
S67	7	S61 and wedge	US-PGPUB; USPAT	OR	ON	2006/04/12 14:33
S68	614	shaft same seal same wedge	US-PGPUB; USPAT	OR	ON	2006/04/12 14:51
S69	2	shaft near seal near wedge	US-PGPUB; USPAT	OR	ON	2006/04/12 14:45
S70	12	shaft near3 seal near3 wedge	US-PGPUB; USPAT	OR	ON	2006/04/12 14:47
S71	38	(shaft near3 seal) same (seal near3 wedge)	US-PGPUB; USPAT	OR	ON	2006/04/12 14:48
S72	66085	shaft same seal	US-PGPUB; USPAT	OR	ON	2006/04/12 14:51
S73	4316	S72 and wedge	US-PGPUB; USPAT	OR	ON	2006/04/12 15:02
S74	189	S73 and S27	US-PGPUB; USPAT	OR	ON	2006/04/12 14:53
S75	5	S74 and (seal near4 wedge)	US-PGPUB; USPAT	OR	ON	2006/04/12 15:03
S76	25	S74 and (seal same wedge)	US-PGPUB; USPAT	OR	ON	2006/04/12 15:00
S77	1	"5346513".pn.	US-PGPUB; USPAT	OR	ON	2006/04/12 15:01
S78	2353	S72 and (wedge and chamber)	US-PGPUB; USPAT	OR	ON	2006/04/12 15:02
S79	34413	S72 and chamber	US-PGPUB; USPAT	OR	ON	2006/04/12 15:02

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S80	165	S79 and (seal near4 wedge)	US-PGPUB; USPAT	OR	ON	2006/04/12 15:03
S81	130	S79 and (seal near3 wedge)	US-PGPUB; USPAT	OR	ON	2006/04/12 15:09
S82	404	(wedge near3 shape\$2) near3 seal\$2	US-PGPUB; USPAT	OR	ON	2006/04/12 15:10
S83	65	S82 and (chamber and shaft)	US-PGPUB; USPAT	OR	ON	2006/04/12 15:10
S84	6	"20030044269" "5938363"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/12 15:22
S85	4	"20030044269" "5938363".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/12 15:23
S86	4	"20030044269" "5938343".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/12 15:23
S87	2	"5938343".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/12 16:17
S88	13537	(applied near2 materials).as.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/04/12 16:17
S89	5434	(applied near2 materials).as.	US-PGPUB; USPAT	OR	ON	2006/04/12 16:18
S90	1063	S89 and (chamber and shaft)	US-PGPUB; USPAT	OR	ON	2006/04/12 16:19
S91	670	S89 and ((chamber same (open\$3 aperture)) and shaft)	US-PGPUB; USPAT	OR	ON	2006/04/12 16:21
S92	100	S91 and (seal\$3 same (dust particle dirt))	US-PGPUB; USPAT	OR	ON	2006/04/12 16:22
S93	185	S92 or S40	US-PGPUB; USPAT	OR	ON	2006/04/12 16:23

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S94	113	S92 or S41	US-PGPUB; USPAT	OR	ON	2006/04/12 16:23
S95	945293	118/715-733.ccls. 156/345.\$2.ccls. "204"/\$.ccls. "216"/\$.ccls. "219"/\$. ccls. "315"/\$.ccls. "250"/\$.ccls. "427"/\$.ccls. "438"/\$.ccls. "414"/\$. ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/19 12:09
S96	551345	118/715-733.ccls. 156/345.\$2.ccls. "204"/\$.ccls. "216"/\$.ccls. "219"/\$. ccls. "315"/\$.ccls. "250"/\$.ccls. "427"/\$.ccls. "438"/\$.ccls. "414"/\$. ccls.	US-PGPUB; USPAT	OR	ON	2006/09/19 12:09
S97	551345	118/715-733.ccls. 156/345.\$2.ccls. "204"/\$.ccls. "216"/\$.ccls. "219"/\$. ccls. "315"/\$.ccls. "250"/\$.ccls. "427"/\$.ccls. "438"/\$.ccls. "414"/\$. ccls.	US-PGPUB; USPAT	OR	ON	2006/09/19 12:10
S98	2487	S97 and ((chamber near4 (open\$3 aperture)) and ((shaft spindle) near3 (rotat\$3 movable move\$2)))	US-PGPUB; USPAT	OR	ON	2006/09/19 12:11
S99	2275	S98 and @ad<"20040205"	US-PGPUB; USPAT	OR	ON	2006/09/19 12:11
S10 0	807	S99 and (semiconductor near2 (wafer substrate))	US-PGPUB; USPAT	OR	ON	2006/09/19 15:10
S10 1	390	(semiconductor near2 (wafer substrate)) and (chamber near2 open\$2) and (shaft near2 rotat\$3)	US-PGPUB; USPAT	OR	ON	2006/09/19 15:11
S10 2	2	"5273588".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/19 18:17
S10 3	2	"20060118240"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/09/19 18:17
S10 4	0	("(plasmadischarge)and((chamberre actorhousing)same((shaftspindle)wit h(seal\$3or(Oadjring)orgasket)))"). PN.	US-PGPUB; USPAT	OR	OFF	2007/07/11 08:36
S10 5	0	((("plasmadischarge)and((chamberr eactorhousing)same((shaftspindle)w ith(seal\$3or(Oadj") or ("ring)orgasket))))).PN.	US-PGPUB; USPAT	OR	OFF	2007/07/11 08:34

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S10 6	0	("(chamberreactorhousing)same((shaftspindle)with(seal\$3orgasketor(Oadjring))))".PN.	US-PGPUB; USPAT	OR	OFF	2007/07/11 08:36
S10 7	12177	(plasma discharge) and ((chamber reactor housing) same ((shaft spindle) with (seal\$3 or (O adj ring) or gasket)))	US-PGPUB; USPAT	OR	ON	2007/07/11 09:50
S10 8	146	S107 and (156/345.\$2 118/715-733).ccls.	US-PGPUB; USPAT	OR	ON	2007/07/11 09:16
S10 9	132	S108 and @ad<"20040205"	US-PGPUB; USPAT	OR	ON	2007/07/11 09:51
S11 0	435	S107 and ("204"/\$ "216"/\$ 315/111.\$2 "427"/\$ "438"/\$.).ccls.	US-PGPUB; USPAT	OR	ON	2007/07/11 09:52
S11 1	376	S110 not S108	US-PGPUB; USPAT	OR	ON	2007/07/11 09:18
S11 2	235	S111 and @ad<"20040205" and (partic\$2 contamina\$4)	US-PGPUB; USPAT	OR	ON	2007/07/11 10:24
S11 3	777	(plasma discharge) and ((chamber reactor housing) same ((shaft spindle) with (seal\$3 or (O adj ring) or gasket)) SAME (PARTICLE\$2 contamina\$5))	US-PGPUB; USPAT	OR	ON	2007/07/11 09:56
S11 4	702	S113 and @ad<"20040205"	US-PGPUB; USPAT	OR	ON	2007/07/11 09:51
S11 5	36	S114 and ( 156/345.\$2 118/715-733 "204"/\$ "216"/\$ 315/111.\$2 "427"/\$ "438"/\$.).ccls.	US-PGPUB; USPAT	OR	ON	2007/07/11 09:52
S11 6	676	(plasma discharge) and (((chamber reactor housing) near4 (bottom lower)) same ((shaft spindle) with (seal\$3 or (O adj ring) or gasket)) and (PARTICLE\$2 contamina\$5))	US-PGPUB; USPAT	OR	ON	2007/07/11 10:10
S11 7	22	(plasma discharge) and (((chamber reactor housing) near4 (bottom lower)) same ((shaft spindle) with (seal\$3 or (O adj ring) or gasket)) and (PARTICLE\$2 contamina\$5)). clm.	US-PGPUB; USPAT	OR	ON	2007/07/11 09:59
S11 8	1	plasma and ((chamber reactor housing) same ((shaft spindle) with (seal\$3 near7 bush\$3)) same (PARTICLE\$2 contamina\$5))	US-PGPUB; USPAT	OR	ON	2007/07/11 10:16
S11 9	20	plasma and ((chamber reactor housing) same ((shaft spindle) with (seal\$3 near5 (rotary sliding rotating)))) same (PARTICLE\$2 contamina\$5))	US-PGPUB; USPAT	OR	ON	2007/07/11 10:23

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S12 0	20	S119 and @ad<"20040205" and (particl\$2 contamina\$4)	US-PGPUB; USPAT	OR	ON	2007/07/11 11:14
S12 1	254	plasma and (((chamber reactor housing) same ((shaft spindle) with (seal\$3 near5 (rotary sliding rotating))))	US-PGPUB; USPAT	OR	ON	2007/07/11 10:24
S12 2	164	S121 and @ad<"20040205" and (particl\$2 contamina\$4)	US-PGPUB; USPAT	OR	ON	2007/07/11 10:26
S12 3	140	S122 not (applied near2 materials). as.	US-PGPUB; USPAT	OR	ON	2007/07/11 10:26
S12 4	196	S121 and @ad<"20040205"	US-PGPUB; USPAT	OR	ON	2007/07/11 10:26
S12 5	169	S124 not (applied near2 materials). as.	US-PGPUB; USPAT	OR	ON	2007/07/11 11:12
S12 6	22699	(plasma discharge) and (((chamber housing reactor) near5 (bottom lower)) with (opening aperture))	US-PGPUB; USPAT	OR	ON	2007/07/11 11:13
S12 7	65	(plasma discharge) and (((chamber housing reactor) near5 (bottom lower)) with ((opening aperture) near5 step))	US-PGPUB; USPAT	OR	ON	2007/07/11 11:14
S12 8	21	S127 and @ad<"20040205" and (particl\$2 contamina\$4)	US-PGPUB; USPAT	OR	ON	2007/07/11 11:14
S12 9	489	118/733.ccls.	US-PGPUB; USPAT	OR	ON	2007/07/14 10:42
S13 0	400	S129 and @ad<"20040205"	US-PGPUB; USPAT	OR	ON	2007/07/14 10:43
S13 1	47	S130 and ((gasket\$2 seal\$3 (O adj ring\$2)) near7 (shaft\$2 spindle\$2 ))	US-PGPUB; USPAT	OR	ON	2007/07/14 10:45
S13 2	47	S130 and ((gasket\$2 gland\$2 seal\$3 (O adj ring\$2)) near7 (shaft\$2 spindle\$2 ))	US-PGPUB; USPAT	OR	ON	2007/07/14 11:08
S13 3	13	S130 and ((gasket\$2 gland\$2 seal\$3 (O adj ring\$2)) with (rotary rotating rotates) with (shaft\$2 spindle\$2) with (chamber housing reactor))	US-PGPUB; USPAT	OR	ON	2007/07/14 11:18
S13 4	27	S130 and ((gasket\$2 gland\$2 seal\$3 (O adj ring\$2)) with (shaft\$2 spindle\$2) with (chamber housing reactor))	US-PGPUB; USPAT	OR	ON	2007/07/14 11:21
S13 5	292	S130 and ((gasket\$2 gland\$2 seal\$3 (O adj ring\$2)) with (chamber housing reactor))	US-PGPUB; USPAT	OR	ON	2007/07/14 12:29
S13 6	154303	C23C "16"/\$.ipc.	EPO; JPO; DERWENT	OR	ON	2007/07/14 12:31



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S13 7	102	S136 and ((chamber housing) same (shaft spindle) same ((O adj ring\$2) seal\$3 gasket\$2))	EPO; JPO; DERWENT	OR	ON	2007/07/14 12:38
S13 8	74	S137 and @ad<"20040205"	EPO; JPO; DERWENT	OR	ON	2007/07/14 12:44
S13 9	9	S136 and (((chamber housing) with (bottom lower)) same (shaft spindle) same ((O adj ring\$2) seal\$3 gasket\$2))	EPO; JPO; DERWENT	OR	ON	2007/07/14 12:37
S14 0	42861	C23F S129/\$.ipc.	EPO; JPO; DERWENT	OR	ON	2007/07/14 12:38
S14 1	12	S140 and ((chamber housing) same (shaft spindle) same ((O adj ring\$2) seal\$3 gasket\$2))	EPO; JPO; DERWENT	OR	ON	2007/07/14 12:43
S14 2	919725	H01L "021"/\$.ipc.	EPO; JPO; DERWENT	OR	ON	2007/07/14 12:43
S14 3	157	S142 and ((chamber housing) same (shaft spindle) same ((O adj ring\$2) seal\$3 gasket\$2))	EPO; JPO; DERWENT	OR	ON	2007/07/14 12:43
S14 4	135	S143 and @ad<"20040205"	EPO; JPO; DERWENT	OR	ON	2007/07/14 12:44
S14 5	0	"2004370138"	DERWENT	OR	ON	2007/07/16 15:27
S14 6	2	"370138"	DERWENT	OR	ON	2007/07/16 15:28